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REMARKS

Claims 2-3, 5-11, 14, 16-22, 26-29, 31-32, 34-40, 44-45 and 47-53 are pending in the present application. Claims 3, 7, 18, 27, 36 and 45 have been amended herewith. Reconsideration of the claims is respectfully requested.

Amendments were made to the specification to change the title. No new matter has been added by any of the amendments to the specification.

I. Objection to Specification

The Examiner objected to the specification, stating that the current title is not descriptive and requiring a new title. Applicants have amended the specification herewith to change the current title.

Therefore, the objection of the specification has been overcome.

II. Double Patenting Rejection

The Examiner rejected Claims 2-3, 5-11, 14, 16-22, 26-29, 31-32, 34-40, 44-45 and 47-53 under the judicially created doctrine of double patenting. The Examiner states that although the conflicting claims are not identical with US Patent 6,728,770, they are not patentable distinct from each other because claims 1-40 of the prior patent contain all limitations cited in the current claims. While Applicants do not agree with this assessment – for example, independent claims and dependent claims thereof routinely issue in a patent and are deemed to be sufficiently different in scope to warrant separate claim coverage, and dependent claims are not inherently obvious in view of broader independent claims and vice versa – Applicants are in any event submitting concurrently herewith a terminal disclaimer to overcome such rejection in order to expeditiously move this case to issuance.

Therefore the rejection of Claims 2-3, 5-11, 14, 16-22, 26-29, 31-32, 34-40, 44-45 and 47-53 under the judicially created doctrine of double patenting has been overcome.

III. 35 U.S.C. § 103, Obviousness

The Examiner rejected Claims 2-3, 5-11, 14, 16-22, 26-29, 31-32, 34-40, 44-45 and 47-53 under 35 U.S.C. § 103 as being unpatentable over Rabinovich et al., U.S. Pat. No. 6,167,427. This rejection is respectfully traversed.

Applicants will show below that the Examiner has improperly rejected all pending claims using impermissible hindsight analysis, as there is no suggestion or other motivation to modify the teachings of the cited reference in accordance with the claimed invention. Even with such impermissible hindsight analysis, Applicants will also show that the Examiner has failed to properly meet their burden of establishing a *prima facie* case of obviousness with respect to numerous pending claims.

A. **Impermissible Hindsight Due to No Suggestion or Motivation to Modify**

It is fundamental patent law that the fact that a prior art device could be modified so as to produce the claimed device is not a basis for an obviousness rejection *unless the prior art suggested the desirability of such a modification*. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). This can also be seen by the holding of *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), where it was stated that "Although a device may be capable of being modified or run the way [the patent applicant's] apparatus is claimed, there must be a suggestion or motivation *in the reference* to do so" (emphasis added by Applicants). Both of these cases establish a fundamental requirement when making an obviousness rejection using a single cited reference which has missing claimed elements/features – that the single cited reference itself must provide some suggestion or motivation to modify the teachings contained therein in accordance with the claimed invention. Applicants will now show that this is not the case, and thus the Examiner must be using Applicants' own patent specification to provide such motivation, which is improper hindsight analysis.

In rejecting all pending claims under 35 U.S.C. 103, the Examiner states on page 5 of the present Office Action (dated 10/06/2004):

"Rabinovich does not explicitly teach measuring usage (e.g., traffic) on the paths associated with I/O devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize

Rabinovich's invention in any commercial network applications including network storage because it would have allowed balancing loads for such network resources".

Unfortunately, the cited Rabinovich reference makes no suggestion and provides no motivation to modify the teachings contained therein in accordance with the claimed invention of 'balancing path usagc over a plurality of paths'. Thus, the requirements of *In re Gordon*, *supra*. and *In re Mills*, *supra*. have not been met. The teachings of the cited Rabinovich reference are with respect to internal server workload balancing, and have nothing to due with network or path load balancing. These are two distinct and very different types of load balancing. Internal load balancing within a server is with respect to a very constrained and well know environment within a given server. Load balancing of paths, by contrast, does not enjoy such well known and constrained environment, as networks or paths can span across great geographic distances with intervening and unknown hardware or systems such as routers 180 and 190 shown in Figure 1 of the present application.

By analogy, assume a gasoline distribution system where the objective is to 'balance' the supply of gasoline that exists in each of a plurality of disparate gasoline service stations. This could be akin to the teachings of the cited Rabinovich reference which attempts to balance the workload of individual servers. Contrast that type of gasoline distribution balancing with a system that attempts ensure that the roads/highways used to deliver the gasoline via tanker truck (or railroads or boats used to deliver the gasoline via tanker tail car or ship) do not become bottlenecks supplying the gasoline. Such transportation path balancing, as opposed to balancing of gasoline supply amongst a plurality of gasoline service stations, has different variables, constraints, etc. to be concerned with, such as transportation path routing (selecting which road/highway to use), transportation path delays (red lights, intra- and inter-city traffic, weight station stops, toll both delays, refueling of the transportation vehicle itself, congestion generated by other fuel vehicles attempting to service other gasoline service stations, etc.), etc. As can be seen by this analogy, balancing of loads for a transportation system interconnecting a plurality of gasoline service stations is very different from a product

balancing system that attempts to achieve uniform product quantity at each individual service station.

In summary, load balancing techniques for work performed within a plurality of devices can be very different from load balancing techniques for paths connecting a plurality of such devices due to differing environments and resulting constraints. Thus, a teaching of load balancing of work performed by a plurality of devices does not teach, suggest, or otherwise provide motivation to extend such concept to a path balancing environment. The only motivation for such extension comes from Applicants' own patent specification, which is improper hindsight analysis in that Applicants' own disclosure is being used as the motivation to modify the teachings of the cited reference in accordance with the claimed invention.

Thus, all pending claims are shown to have been erroneously rejected as there is no suggestion or motivation *within the cited reference itself* to modify such teachings in accordance with the claimed invention.

B. Failure to Establish Prima Facie Obviousness

In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. MPEP 2143.03. *See also, In re Royka*, 490 F.2d 580 (C.C.P.A. 1974). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Applicants will now show that a *prima facie* case of obviousness has not been established with respect to numerous claims, and thus the rejection of such claims is improper, per *In re Fine*, *supra*.

Applicants will now show that the Examiner has not properly established a *prima facie* case of obviousness with respect to all pending claims and thus such pending claims have been erroneously rejected under 35 U.S.C. 103.

With respect to Claim 2 (and dependent Claims 3 and 5-11), the cited reference does not teach or suggest, nor has the Examiner alleged any teaching or suggestion of, the claimed methodology of “balancing path usage *over a plurality of paths from a first device to a second device*” (emphasis added by Applicants). The Examiner acknowledges that the cited reference does not explicitly teach measuring usage on the paths associated with I/O devices, but states that it would have been obvious to utilize Rabinovich’s invention ‘in any conventional network application including network storage’. Applicants urge that even assuming arguendo that this statement is true (which Applicants urge is not true), such assertion still does not allege or otherwise establish a specific teaching or suggestion of the specifically recited method of “balancing path usage *over a plurality of paths from a first device to a second device*” (emphasis added by Applicants). Thus, even assuming the Examiner’s broad characterization is true regarding conventional network applications including network storage, the Examiner has not established that the presently claimed invention is in fact a conventional network application, and more importantly has not alleged or otherwise established that the specifically recited method of “balancing path usage over a plurality of paths from a first device to a second device” is obvious in view of the cited reference. The Examiner merely alleges it would be obvious to utilize Rabinovich’s system in ‘a conventional network application including network storage’. Thus, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 2 (and dependent Claims 3 and 5-11), and such claim is thus shown to have been erroneously rejected.

Further with respect to Claim 5 (and dependent Claim 6), such claim recites “wherein the second device that is moved is the second device from the plurality of second devices *that has a usage amount closest to a target amount*” (emphasis added by Applicants). As can be seen, this claimed feature makes a determination of which device to move based upon the usage amount of such device, and in particular such determination is made based upon which device has a usage amount *closest to a target amount*”. A preferred embodiment of such determination is described in the present

application at page 15, line 6 – page 16, line 2. The cited reference does not teach or suggest this claimed feature, nor has the Examiner alleged any such teaching or suggestion. In rejecting Claim 5, the Examiner merely states that “Rabinovich teaches performing path balancing by redirecting user request between servers or moving resource (objects) between paths/servers (see col 4, lines 46-67)”. Applicants urge that such broad generalization of the teachings of the cited reference does not establish any specific teaching or suggestion, or even any allegation of a teaching or suggestion, of moving a device *that has a usage amount closest to a target amount*. Thus, it is further shown that the Examiner has failed to establish a *prima facie* showing of obviousness with respect to Claim 5 (and dependent Claim 6).

Further with respect to Claim 7 (and dependent Claims 8 and 9), such claim recites “wherein the total usage for each path is a function of the total usage for each second device associated with each path”. The Examiner makes no allegation whatsoever that this claimed feature is taught or suggested by the cited reference, and thus has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 7. This failure to even allege such a teaching is likely due to the fact that the cited reference describes determining a servers’ load is accomplished by examining the length of its input queue (Col. 4, lines 35-38), which has nothing to do with determining total usage of each device associated with a server. While the reference does allude to determining the fraction of its total load is due to a particular object on the server, this determination is not used to determine the total usage of a server. Rather, as described above, the server input queue length is used for such determination. *Once this total load is determined, this total load is divided up in proportion to individual object resource consumption to determine fractional load for a given object* (Col. 4, lines 42-48). This is essentially just the opposite of what is claimed in Claim 7. Applicants have amended such claim herewith to further clarify this distinction. In any event, it is shown that Claim 7 (and dependent Claims 8 and 9) has been erroneously rejected as a proper *prima facie* showing of obviousness has not been established by the Examiner.

Still further with respect to Claim 8 (and dependent Claim 9), the cited reference does not teach or suggest, nor has the Examiner alleged any teaching or suggestion of, the claimed feature of “wherein the total usage for each second device is a function of a total

number of input/output messages directed to each second device multiplied by the expected connect time for the input/output messages". Thus, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 8 and thus Claim 8 (and dependent Claim 9) has been erroneously rejected.

Still further with respect to Claim 9, the cited reference does not teach or suggest, nor has the Examiner alleged any teaching or suggestion of, the claimed feature of "wherein the expected connect time for the input/output messages is based on the type of input/output message being sent". Thus, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 9 and thus Claim 9 has been erroneously rejected.

Further with respect to Claim 10, such claim recites "wherein determining a total path usage for each of the plurality of paths includes sampling a number of I/O messages issued over each of the paths during a sampling period". The Examiner makes no allegation whatsoever that this claimed feature is taught or suggested by the cited reference, and thus has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 10. This failure to even allege such a teaching is likely due to the fact that the cited reference describes determining a servers' load is accomplished by examining the length of its input queue (Col. 4, lines 35-38). There is no correlation between this queue length and the number of messages issued, as if the server is extremely fast, the queue may be completed depleted and yet hundreds or thousands of items could have passed through this queue on their way to being processed by the server. Quite simply, the queue length at any point in time has no correlation with the number of messages that may have been issued to the queue during a sampling period. Thus, even after establishing that the Examiner has not properly established a *prima facie* showing of obviousness with respect to Claim 10 (as described above), it is also shown that the reference teaches a completely different way in determining/measuring a server's load, and thus Claim 10 is further shown to not be obvious in view of the cited reference.

With respect to Claim 14 (and dependent Claims 16-22), the cited reference does not teach or suggest, nor has the Examiner alleged any teaching or suggestion of, the claimed feature of "moving a peripheral device associated with the highest communication path from the highest communication path to the lowest communication

path based on the calculated difference". Thus, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claim 14 and thus Claim 14 has been erroneously rejected.

Further with respect to Claim 16 (and dependent Claim 17), Applicants traverse for further reasons given above with respect to Claim 5.

Further with respect to Claim 18 (and dependent Claims 19 and 20), Applicants traverse for further reasons given above with respect to Claim 7.

Still further with respect to Claim 20, Applicants traverse for further reasons given above with respect to Claim 9.

Further with respect to Claim 21, Applicants traverse for further reasons given above with respect to Claim 10.

With respect to Claim 26 (and dependent Claims 27-29), Applicants traverse for similar reasons to those given above with respect to Claim 2.

Further with respect to Claim 28, Applicants traverse for further reasons given above with respect to Claim 10.

With respect to Claim 31 (and dependent Claims 32 and 34-40), Applicants traverse for similar reasons to those given above with respect to Claim 2.

Further with respect to Claim 34 (and dependent Claim 35), Applicants traverse for further reasons given above with respect to Claim 5.

Further with respect to Claim 36 (and dependent Claims 37 and 38), Applicants traverse for further reasons given above with respect to Claim 7.

Still further with respect to Claim 38, Applicants traverse for further reasons given above with respect to Claim 9.

Further with respect to Claim 39, Applicants traverse for further reasons given above with respect to Claim 10.

With respect to Claim 44 (and dependent Claims 45 and 47-53), Applicants traverse for similar reasons to those given above with respect to Claim 2.

Further with respect to Claim 47 (and dependent Claim 48), Applicants traverse for further reasons given above with respect to Claim 5.

Further with respect to Claim 49 (and dependent Claims 50 and 51), Applicants traverse for further reasons given above with respect to Claim 7.

Still further with respect to Claim 51, Applicants traverse for further reasons given above with respect to Claim 9.

Further with respect to Claim 52, Applicants traverse for further reasons given above with respect to Claim 10.

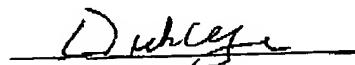
Therefore, the rejection of claims 2-3, 5-11, 14, 16-22, 26-29, 31-32, 34-40, 44-45 and 47-53 under 35 U.S.C. § 103 has been overcome.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the cited reference and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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